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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/055,165 | 01/21/2002 | David A. Kritler | NETT 2207 | 9581 |

7812 7590 03/24/2005

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| EXAMINER |
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HUGHES, JAMES P

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| ART UNIT | PAPER NUMBER |
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2883

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,165

Applicant(s)

KRITLER ET AL.

Examiner

James P. Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-21, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-21, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-13, 22, 23, and 26-29 are cancelled per applicants amendment on June 3, 2002. John Smith-Hall confirmed on March 11, 2005 that the claims had been cancelled on page 3 of the amendment the Office received on June 3, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Fellows et al. (4,790,465). Fellows et al. (4,790,465), herein after referred to as “Fellows”, teaches an apparatus and corresponding method for preparing and cleaving an optical fiber length segment. Fellows teaches that the apparatus comprises: a first clamp (e.g., one of the clamps identified as 6) for gripping the length segment of a fiber (2) at a first location and a second clamp (e.g., the other 6) for gripping the length segment at a second location, spaced apart from the first location wherein, tension between the first and second clamps may be provided via urging the second clamp (6) away from the first clamp (6) by an actuator. A translation means (5) moves the cleaving element – blade – (3) to cleave the (bare or unstripped) fiber (2) at a location between the two clamps (6). Fellows also teaches that the cleaving element (3) may be driven by acoustic

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means (e.g., 51) for vibrating the cleaving element (3). (See e.g., Col. 2, ll. 44 – Col. 3, ll. 68 and Figs. 3-7)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14, 17, 18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fellows et al. (4,790,465) in view Anjan et al. (5,245,400). Fellows teaches an apparatus and corresponding method for cleaving optical fibers as discussed above. Fellows teaches that the fiber (2) is held between the clamps (6) under an applied tension – that depends on the side of the fiber (2) – to assist cleavage. For example, Fellows teaches that for free length of about 30mm the applied force may be approximately 1.5 Newtons. (Col. 3, ll. 66) Additionally, it is taught that the translation means (5) is operable to steadily move the blade (3) toward the fiber and to initiate cleavage and then to retract the blade post cleavage. (See e.g., Col. 4, ll. 3-40)

While Fellows teaches that the tension on the fiber (2) is measured, how the measurement is made is not explicitly taught.

It is respectfully submitted that strain gages are notoriously well known in the art for their ability to generate a signal that depends on the tension measured. For example, Anjan et al. (5,245,400), hereinafter referred to as “Anjan”, teaches a fiber optic system wherein an optical

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fiber (5) and a strain gauge (804) is employed to measure the tension (force) applied to the fiber (5). See e.g., Col. 4, ll. 65 – Col. 5, ll. 40 and Figs. 6 and 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a strain gauge in the invention of Fellows to measure the tension on the optical fiber because as it is well known in the art (and exemplified by Anjan) that strain gauges may be used to efficiently measure tension. One of ordinary skill in the art would have been motivated to do so because Fellows teaches that the tension (force) on the fiber is measured.

Regarding claims 17 and 21; Fellows in view of Anjan does not explicitly teach recording the evolution of the strain gauge signal as a function of time or recording the signal in a memory. It would have been obvious to one of ordinary skill in the art at the time of the invention to record the signal in a memory for future reference and to record the signal as a function of time to identify optimal cleavage initiation times because this would yield an efficient cleavage process.

4. Claims 15, 16, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fellows et al. (4,790,465) in view Anjan et al. (5,245,400),, in further view of Liu et al. (4,292,865). Fellows in view of Anjan teaches an apparatus and corresponding method for cleaving optical fibers as discussed above. However it is not explicitly taught that the tension in the fiber or the translational means for the cleavage element are controlled based on the signal from the strain gauge.

It is respectfully submitted that employing strain gauge signals to control applied forces and other functions is well known in the art. For example, Liu et al. (4,292,865), hereinafter referred to as "Liu", teaches that a strain gauge (52) is employed to measure the force applied by a cutting member (16) on a workpiece (W) and if an improper force is detected, control logic (54) will automatically adjust the operation of the device. (See e.g., Col. 7, ll. 20-28)

It would have been obvious to one of ordinary skill in the art at the time of the invention to control the force applied to the fiber (2) and the translational means (5) from moving the cleaving element (3) to the cutting location unless the strain gauge signal is in a selected magnitude in the invention of Fellows because strain gages are well known to provide control signals and Fellows teaches that there are desirable ranges to hold the fiber (2) in tension for cleavage and that such tensions may be applied in a conventional manner (see e.g., Col. 5, ll. 15-20).

5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (5,469,611) in view Anjan et al. (5,245,400). Sasaki et al. (5,469,611), herein after referred to as "Sasaki", teaches an apparatus for stripping and cleaving optical fibers wherein an optical fiber. The apparatus comprises: a first gripping element – or fiber stripper – (e.g., 22b) for gripping a length segment of an optical fiber (e.g., 50), a second gripping element – or fiber clamp – (e.g., 15) for gripping the length segment at a second location, spaced apart from the first location, and an actuator (e.g., 14) for urging the second clamp (15) away from the first gripping element (22b). (See e.g., Col. 9, ll. 28 – Col. 10, ll. 35; Col. 11, ll. 5-68; and Figs. 2-8 and 19)

However, Sasaki does not explicitly teach employing a strain gauge for measuring the tension applied to the fiber between the two gripping elements.

It is respectfully submitted that strain gages are notoriously well known in the art for their ability to generate a signal that depends on the tension measured. For example, Anjan et al. (5,245,400), hereinafter referred to as “Anjan”, teaches a fiber optic system wherein an optical fiber (5) and a strain gauge (804) is employed to measure the tension (force) applied to the fiber (5). See e.g., Col. 4, ll. 65 – Col. 5, ll. 40 and Figs. 6 and 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a strain gauge in the invention of Sasaki to measure the tension on the optical fiber because as it is well known in the art (and exemplified by Anjan) that strain gauges may be used to efficiently measure tension. One of ordinary skill in the art would have been motivated to do so because a tension on the fiber (e.g., 51) is applied during the fiber stripping and it would be beneficial to measure this force so as not to exceed a give maximum.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fukuoka et al. (5,253,412) teaches an optical fiber processing apparatus and system. Ashby (GB 2 082 565) teaches a fiber optic cleavage device employing a fiber (16) held between two clamps (18, 20) and an acoustically vibrating blade (30). Kazama et al. (2002/0070256) Sasaki et al. (6,801,705) teaches an optical fiber cutting apparatus. Nguyen et al. (2003/0128939) teaches an automatic fiber optical processing system employing a connection system employing, at least, a memory device. Jeppsson (4,698,773) teaches a control system employing a strain gauge in a milling apparatus. Froggatt et al. (6,545,760) teaches a method of measuring strain in optical fibers. Mueller et al. (2004/0131325) teaches an apparatus and method for machining an insulated optical fiber. Tabeling (6,695,191) teaches an optical fiber cleaver. Nakae (2002/0003158) teaches optical fiber cutting device. Dumitriu (6,337,943) teaches an optical fiber ribbon fixation device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is 571-272-2474. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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